

What Is Claimed Is:

1. An inter-network relay storage apparatus for distributing data between a plurality of independent network environments, comprising:

5 a storage unit having a data area for storing files to be transferred between said networks in file units and a file management table to indicate the access status to said file; and

a data management unit for performing exclusive
10 control between file systems for each one of said networks using said file management table.

2. The inter-network relay storage apparatus according to Claim 1, wherein said data management unit is
15 disposed in a pair of network servers which are connected to said networks respectively.

3. The inter-network relay storage apparatus according to Claim 1, further comprising a pair of network
20 connection servers having said data management unit respectively, and are connected to said networks respectively, and communicate data via said networks.

4. The inter-network relay storage apparatus
25 according to Claim 1, wherein, when said file of said storage apparatus is read or written, said data management unit sets an indication to show that the file is in use in

said file management table before said file is read or written, and resets said in use indication and performs exclusive control after said file is read or written.

5 5. The inter-network relay storage apparatus according to Claim 4, wherein said data area of said storage unit comprises:

 a first area which is written by one file system of said plurality of file systems and read by another file
10 system; and

 a second area which is written by said other file system and read by said one file system.

 6. The inter-network relay storage apparatus
15 according to Claim 3, wherein said network connection server comprises:

 a network control section for connecting with said network for communication; and
 said data management unit.

20 7. An inter-network relay method for distributing data between a plurality of independent network environments, comprising the steps of:

 performing the exclusive control between file systems
25 using a file management table to indicate the access status to a file in the storage apparatus by said file system for said network; and

writing and reading files in file units to/from said storage apparatus during exclusive control, and relaying data between said networks by said file system for said network.

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8. The inter-network relay method according to Claim 7, wherein said file system is disposed in a pair of network servers which are connected to said networks respectively.

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9. The inter-network relay method according to Claim 7, further comprising a step of connecting to said networks respectively by a pair of network connection servers, and executing said data relay in file units according to the request from said networks.

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10. The inter-network relay method according to Claim 7, wherein said exclusive control step is a step of performing the exclusive control, when said file of said storage apparatus is read or written, by setting an indication to show the file to in use in said file management table before said file is read or written, and resetting said in use indication after said file is read or written.

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11. The inter-network relay method according to Claim 10, wherein said data relay step comprises:

a step of writing a first area of said storage

apparatus by one file system of said plurality of file systems and reading said first area by another file system; and

a step of writing a second area of said storage apparatus by said another file and reading said second area by said one file system.

12. The inter-network relay method according to Claim 9, wherein further comprises a step of issuing a data relay request to the network connection server connected to said network by said service system of said network.